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ABSTRACT

The COIN Basic Skills and Career Interest Survey is a two-part measure using the combined scores of the Wonderlich Basic Skills Test (E. Long, V. Artese, and W. Clonts, 1994) (WBST) and the COIN Career Interest Survey (R. Durgin, J. Ryan, and R. Ryan, 1995; COIN Educational Products, Inc.) (CIS). The third part of this package involves the combination of the two sets of scores linked to specific occupations. The overall result of the test package is an interpreted result that gives a student elements necessary for career decision making, educational planning, and curriculum selection. The entire package is designed for use with high school students. The package is attractively presented and appropriate for its audience. The WBST was normed with individuals in 86 occupations in 1992. Reliability analyses performed by the test developers indicate that the WBST is a reasonably reliable test. However, the test package does not contain any record of testing for criterion validity, and there is a lack of technical information about the CIS. If the instrument is intended to be used in a prescriptive way for future workers, then much work needs to be done to ensure that the questions that are asked and the prescriptions made are reliable and valid. Further work needs to be done by COIN to establish the reliability and validity of evidence from this package, but it is enjoyable to take, and might be a useful tool for graduating high school seniors once norms, validity, and reliability are established. (Contains five references.) (SLD)

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A Review and Critique of the COIN Basic Skills and Career Interest Survey

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Test: COIN Basic Skills and Career Interest Survey

Authors: COIN Career Interest Survey- Rod W. Durgin, Jerry M. Ryan, and Roberta M. Ryan
Wonderlic Basic Skills Test- Eliot R. Long, Victor S. Artese, and Winifred L. Clonts

Publisher: COIN Educational Products and Western Personnel Test, Inc.

Date of Publication: COIN Career Interest Survey - 1995; Wonderlic Basic Skills Test - 1994

Date of Manuals: COIN Career Interest Survey - Not Available; Wonderlic Basic Skills Test - 1996

Norms: COIN Career Interest Survey - Not Available; Wonderlic Basic Skills Test - businesses, community colleges, private vocational training schools and high schools

Time required to administer: COIN Career Interest Survey - one class period; Wonderlic Basic Skills Test - 20 minutes for each of the two sections

Costs: Total Package - $47.50 (pkg. of 10)

Brief Description and Purpose of Test

The COIN Basic Skills and Career Interest Survey is a two part measure utilizing the combined scores of the Wonderlic Basic Skills Test (WBST) and the COIN Career Interest Survey (CIS). The third part of this package involves the combination of the two sets of scores (skills and interests) linked to specific occupations. The overall result of the test package, then, is an interpreted result that provides the student with "elements necessary for career-decision making, educational planning, and curriculum selection" (COIN, 1997). The uses of the instrument are in educational and career guidance, although the WBST can be used separately as an assessment tool for counseling and applicant selection. The entire package is designed for use with high school students, although the instruments can also be used with adults. It is a self-evaluative package, but the WBST user's manual requires that a test administrator be present. The content of the WBST is derived from and can be interpreted in terms of the levels of development described by the Department of Labor in their General Education Development (GED) scale. The GED classification is divided into six levels for both math and language, although the WBST only tests and accounts for the first three levels. The CIS utilizes a forced-choice item format consisting of three items in each question that the student is required to rank in order of personal importance. The CIS items are based on seven different areas of interest: outdoor, mechanical, scientific, creative, sociable, persuasive, and structured. These seven interest areas are measured in four

sections based on occupational interests, skills and aptitudes, work values, and activity interests. The package then links scores from the WBST with scores from the CIS to provide the student with a means by which to research and evaluate current occupations listed at the back of the booklet. These occupations, listed by interest area and GED skill level, are catalogued by the COIN's "seven areas of interest". The student then selects his/her primary interest area based on the results from the CIS and evaluates each occupation listed in that primary interest area. For example, if a student's scores from the CIS showed their primary interests to be in the area of outdoors, the occupational listing for this interest area would show that the first occupation listed, "Animal Caretaker", has a secondary interest area of "structured interest" and has a GED math and language level of 1-2 and 1-2 respectively. The student would therefore be able to see what skills are required of that job and be able to evaluate their present situation so as to plan their future educational strategy (COIN, 1997).

Practical Evaluation

The COIN BS & CIS is packaged in an attractive booklet that is appropriate for its audience. The BS&CIS booklet is sturdy and printed in purple ink on heavy white paper. The graphics and charts in the booklet help with the ease of use. Instructions are scattered throughout the booklet and are presented in an as-needed fashion. The booklet has five parts: introduction to the package, instructions for the WBST (although the WBST must be administered separately and scored by a computer), instructions and scoring of the CIS, interpretation of results from the WBST and CIS in terms of occupational ability, and a summary section in which the student builds a career/skills profile. Other qualities such as booklet design, aesthetics, and durability are positive features and give credibility to the package. The booklet is designed to guide the test-taker through the package, however there is no users or technical manual to advise the proctor in the administration of the instrument.

Contained in the WBST portion of the instrument is a user's manual that provides the examiner with thorough reference material to aid in the administration of this test. This manual instructs the proctor on administration of the test, scoring, and interpretation of results. The

WBST measures the job-related verbal and quantitative skills of adolescents (primarily) and adults interested in entry level employment or vocational programs (WBST, 1996). The scoring of the WBST can be done by the proctor with the aid of an IBM compatible computer (it is unknown to this reviewer if a Macintosh version of the software is available) and a disk provided by COIN. The test forms can also be submitted to the test publisher for scoring. The software gives the proctor the ability to both score and print results. The publishers encourage the use of a personal computer when scoring the WBST although this approach may be more prone to error than the results provided by machine scoring from the test publisher.

The CIS is a self-administered measure of occupational interests, skills and aptitudes (this should be clarified as a self-estimate of aptitudes), work values, and leisure time activities (although the results are not interpreted in relation to these four areas). The CIS asks 56 forced-choice questions broken into the four parts listed above. Each section contains directions and an explanation for that section. The student is instructed to write the number 2 next to the option that represents the best answer and the number 1 next to the option that represents the next best answer. The third choice is always left blank. The student then is guided through a self-scoring process where the results are interpreted by adding the point values that have been assigned when ranking items. The result is a two digit occupational code that lists the first and second interest area of the student. This occupational code is based on the seven areas of interest.

The fourth section, "Connecting Results to Careers", combines the scores from the WBST and the CIS to aid the student in researching and evaluating occupations in terms of their skills and interests. The results of these evaluations are then recorded in the booklet.

The final section helps the student define an educational plan based on the results of the previous section. The educational plan should help the student acheive the following two goals: (1) to reach the math and language skill levels required for jobs that interest the student, and (2) to decide what classes the student needs to take to prepare for education beyond high school (COIN, 1995). The education plan does this by guiding the student through a seven step process that is based on these two goals.

Technical Evaluation

The groups on which the WBST was normed consisted of individuals in 86 occupations. The norm sample consisted of over 400 occupation and training program titles with the selection of only those occupations with 50 or more scores being represented in the norm groups. The norm groups were established in 1992 with the publication of the Wonderlic Personnel Test and are now maintained by the Wonderlic Personnel Test, Inc. with plans for expanding the job title listing with results from commercial distribution. The manual provides the ages for the subgroup norms as follows: 7% high school students under age 19 and 93% adults at work age 20 or older. The results of the test are reported in terms of scores from the first three GED levels in verbal, quantitative, and composite skills. The result also yields a grade level score and a percentile standing among adults at work in the selected field. One drawback from this test is that it only measures the first three GED levels. It is somewhat perplexing that COIN chose to use the WBST, however, since 223 of the 366 occupations listed in the last section of the BS&CIS require GED math or language levels above level 3.

The internal consistency and test re-test analyses were performed on 964 applicants from 25 states with roughly equal gender ratios and diverse ages, education levels, and cultural backgrounds. The internal consistency estimates by content domain and test form of continuous scores based on Cronbach alphas range from .94 to .96 for the verbal skills test and .90 to .93 for the quantitative skills test. After a comparative analysis of both timed and untimed tests, the Cronbach alphas showed that the 20 minute time period did not practically or significantly impact internal consistency estimates for either the verbal or quantitative portions of the test. Test re-test reliability estimates ranged from .89 to .92 for the verbal skills test and .84 to .88 for the quantitative skills test. Based on these findings, the WBST appears to be a reasonably reliable test. However, it should be noted that the purposes for which the WBST is used here may be inappropriate for use in this package assessment given that it is not designed to measure levels 4-6 math and language GED scores.

All questions for the WBST were developed by subject-matter experts in accordance with the job-related language and math skills published by the U.S. Department of Labor, Employment and Training Administration in the Dictionary of Occupational Titles (U.S. Department of Labor, 1991). When evaluating for content bias, a total of 118 verbal items and 52 quantitative items were eliminated from the WBST because of culture or gender bias. Although the WBST contained reports of content validity, the user's manual contained no record of testing for criterion validity.

In preparation for this review, psychometric information and/or a technical manual were requested from COIN. This reviewer also contacted the president of COIN in an effort to discover if norm, reliability and validity studies had been conducted. In discussion with COIN personnel, it was discovered that the items in the CIS were derived from a larger pool of questions contained in the COIN Career Targets Package (CCT). In this personal communication, it was discovered that items derived for both the CIS and the CCT were evaluated against job characteristics of chosen occupations, but no study of norms, reliability, or validity had been conducted on either the CIS or the CCT (Rod Durgin, personal communication, December 4, 1997).

The lack of technical information is a serious problem given the recommendations of the AERA, APA, and NCME (1985) in Standards for Educational and Psychological Testing. Standard 5.1 of this publication states, "A technical manual should be made available to prospective test users at the time a test is published or released for operational use." Standard 5.10 also states that "A test manual should not suggest that a test is self-interpreting unless there is evidence supporting the validity of this claim. In the absence of such evidence, a manual should specify information to be given about test results to people who lack the training usually required to interpret them. Tests that are designed to be scored by the test taker should be accompanied by interpretive aids." The BS&CIS does contain in it instructions for interpretation, but there is much room for error when calculating the results. The practice of ranking a first choice decision with the number 2 and a second choice decision with the number 1 in the CIS portion of the instrument seems counter intuitive and could yield inaccurate results because of confusion on the part of the examinee. The listing of the interest areas as a two-digit occupational code is both confusing and

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unnecessary. Also, there seems to be no criterion for the development and categorization of the seven interest areas into which the occupations are divided.

In order to help comply with the AERA, APA, NCME (1985) standards some suggestions for improving the COIN BS&CIS instrument are included here. First, COIN needs to obtain norms, reliability, and validity information on the CIS using appropriate samples and methods. In order to accomplish this, COIN would need to gather norms on representative samples of occupations across the country, conduct test-retest and internal consistency analyses to determine reliability, and conduct validity tests by relating scores with other similar tests and occupations. Second, COIN needs to monitor the administration of the instrument by delegating responsibilities to a proctor in a separate user's guide. This will help eliminate inaccurate measurement due to scorer/student error. Third, COIN needs to examine whether or not the use of the WBST is the right measure for the intended outcome. These three accomodations by no means completes the chore of producing a good test, but it should help begin the process. Also, although there are no published reviews of this package, hopefully other reviewers will also contribute suggestions to this package's improvement.

Summary Evaluation

If this instrument is intended to be used in a prescriptive nature for future workers, then much work needs to be done in order to ensure that the questions that are asked and the prescriptions that are made concerning future occupations are reliable and valid. It is possible that the COIN BS&CIS is giving the student false information concerning occupations and their interest and ability levels. The problem is that this information is not known because COIN has not taken steps to evaluate the norms, reliability and validity of its instruments. The addition of a user and/or technical manual and use of a proctor would significantly improve the ease of use of this instrument package. The reviewer is also concerned with the claims of the powerful results that COIN makes for this instrument. The information pamphlet provided by COIN claims that the package will "measure against basic skills actually required of a job, link personal interests to

occupations and provide interpretive materials that explain assessment results." This may be the case, but these claims are unsubstantiated.

Although it has been established that there is still work that needs to be done by COIN, this reviewer found the package quite enjoyable to take. It is the opinion of this reviewer that this package could serve as a useful tool for graduating high school students once norms, validity and reliability are established.

References

AERA, APA, NCME (1985). Standards for Educational and Psychological Testing. Washington, D.C.: American Psychological Association, Inc.

COIN Educational Products (1997). Informational Pamphlet: COIN Basic Skills & Career Interest Survey, A Total Assessment Package. Toledo, OH.

Durgin, R., Ryan, J. & Ryan, R. (1995). COIN Basic Skills and Career Interest Survey. Toledo, OH: COIN Educational Products.

Long, E., Artese, V., & Clonts, W. (1996). The Wonderlic Basic Skills Test User's Manual. Libertyville, IL: Wonderlic Personnel Test, Inc.

U.S. Department of Labor (1991). Dictionary of Occupational Titles. Washington, D.C.: U.S. Department of Labor, Employment and Training Administration.

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